Synopsis

Ph.D in Resource Management

Impact of Creating Awareness on Environmental Hygienic Practices among Selected Urban Slum Households

Submitted By

J. Vidhya

(Roll No: 19PHRMP001)

Supervisor

Dr. (Mrs). K. Manimozhi

Department of Resource Management

Submitted to

Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore - 641 043

July 2024

INTRODUCTION

The environment plays a crucial role in sustaining life on Earth, providing resources such as food, water, and energy, regulating the climate and supporting biodiversity. Human activities significantly impact the environment, and issues like pollution, deforestation, habitat destruction, and climate change are major concerns that affect both the natural and built environments. The environment encompasses every element, condition, and factor surrounding an organism or a group of organisms, potentially influencing their development, functioning, survival, and well-being (Grasselli, 2020). Environmental hygiene is crucial for maintaining public health and well-being. Poor environmental conditions can lead to the spread of infectious diseases such as cholera, typhoid, and diarrhoea. Contaminated water sources, inadequate sanitation facilities, and improper waste disposal contribute significantly to these health risks. By promoting clean environments, we can reduce the incidence of such diseases and improve overall community health.

The prevalence of waterborne and sanitation-related diseases is high in urban slums due to the lack of clean water and sanitation facilities (UNICEF and WHO, 2019). Diseases such as diarrhoea, cholera, typhoid, and parasitic infections are common and contribute to high morbidity and mortality rates, especially among children and the elderly (WHO, 2020). Overcrowding is a persistent issue, with slum populations growing faster than infrastructure development can accommodate. This results in strained public services and inadequate provision of health care, education, and other essential services (UN-Habitat, 2020).

Environmental degradation is another consequence of poor environmental hygiene practices in urban slums. Contamination of water sources, soil pollution, and the destruction of natural habitats further exacerbate the vulnerability of slum communities to environmental hazards and health risks (UN-Habitat, 2010). Despite these challenges, efforts are being made by governments, non-governmental organizations, and community groups to improve environmental hygiene. These efforts include initiatives to provide access to clean water and sanitation facilities, promote proper waste management practices, and raise awareness about hygiene and sanitation among residents (UN-Habitat, 2020).

A clean environment is not only essential for preventing diseases but also for promoting good health. Access to clean water, sanitation facilities, and hygienic practices like regular handwashing are critical components of maintaining health, particularly in vulnerable populations such as children and the elderly (WHO, 2019). These practices help to prevent the transmission of pathogens and contribute to better health outcomes (UNICEF and WHO, 2019). Firstly, environmental hygiene plays

a crucial role in preventing the spread of infectious diseases. Poor sanitation, contaminated water sources, and improper waste management can lead to the transmission of diseases such as cholera, typhoid, diarrhoea, and hepatitis (Bartram and Cairncross, 2010). By ensuring access to clean water, proper sanitation facilities, and promoting hygienic practices like handwashing, communities can significantly reduce the incidence of these diseases and improve public health outcomes.

The current study "Impact of Creating Awareness on Environmental Hygienic Practices among Selected Urban Slum Households" aims to enhance the environmental hygiene of specific urban slum areas by implementing an environmental hygiene Awareness programme among women.

Objectives

1. To understand the existing environmental conditions in the chosen area
2. To assess the awareness of selected urban slum women on the concept of environmental hygiene
3. To formulate content for the environmental hygiene Awareness
4. To conduct environmental hygiene intervention programmes among selected urban slum women
5. To evaluate the effectiveness of the environmental hygiene awareness programme conducted.

Hypothesis

- Environmental hygiene awareness programmes do not change urban slum women's knowledge about environmental conditions
- Environmental hygiene awareness programmes do not improve urban slum women's attitudes towards environmental conditions.
- Environmental awareness and hygiene initiatives among urban slum households enhance environmental conditions.

REVIEW OF LITERATURE

The literature about the study **"Impact of Creating Awareness on Environmental Hygienic Practices among Selected Urban Slum Households "**was reviewed under the following headings.

A. The significance of maintaining a conducive environment
B. The current status of environmental hygiene
C. The relationship between environmental hygiene and human health
D. Need for intervention in environmental hygiene
E. Methods of creating environmental hygiene interventions
F. Existing studies are relevant to the present research

The Significance of Maintaining a Conducive Environment

Maintaining a conducive environment, particularly in urban slums, is of paramount importance due to its profound impact on health, well-being, and overall quality of life for residents. This section explores the significance of environmental conditions and their implications for community health and sustainable development. (WHO/UNICEF, 2020).

A. The Current Status of Environmental Hygiene

Environmental hygiene in rural areas varies significantly across different countries, influenced by infrastructure, economic resources, cultural practices, and governmental policies. This section provides a detailed examination of the current status of environmental hygiene in rural areas of various countries, highlighting the challenges and progress made in improving conditions. (Umar et al., 2020).

B. The Relationship Between Environmental Hygiene and Human Health

The intricate relationship between environmental hygiene and human health is well-documented, demonstrating significant impacts on disease prevention, child development, mental well-being, and overall public health. This section explores the nuanced ways in which environmental hygiene influences health outcomes, drawing on recent studies and examples from India and other countries to highlight global patterns and local specificities. (Fisher et al. (2020))

D. Need for Intervention in Environmental Hygiene

Environmental hygiene is crucial for maintaining public health and preventing the spread of diseases through effective control of environmental factors. The need for interventions in environmental hygiene is profound and multifaceted, driven by several critical factors that impact both health and community well-being. (WHO, 2020)

E. Need for Intervention in Environmental Hygiene

Environmental hygiene is crucial for maintaining public health and preventing the spread of diseases through effective control of environmental factors. The need for interventions in environmental hygiene is profound and multifaceted, driven by several critical factors that impact both health and community well-being. (Patel & Desai, 2020).

METHODOLOGY

Environmental hygiene is the science that deals with the cleanliness of the living environment, including personal, domestic, and social hygiene. It aims to preserve health and prevent the degradation of the environment.

People's sanitary circumstances and immediate surroundings influence their health, a component of quality of life. The tremendous rise of the human population, a shortage of facilities and resources, and a lack of awareness about environmental ethics have all been identified as causes contributing to the immense pressure and depletion of these valuable resources. Selvam et al. (2019) assert that UNICEF urgently needs to implement interventions, training, and initiatives like Water, Sanitation, and Hygiene (WASH) to increase environmental health awareness among the target population, given the importance of preserving the environment for future generations. It is vital to concentrate efforts on raising knowledge of environmental hygiene among certain families. The research**, "Impact of Creating Awareness on Environmental Hygienic Practices among Selected Urban Slum Households** aims to enhance the quality of life for urban slum dwellers and promote their health and satisfaction. The study's procedure consisted of the following phases

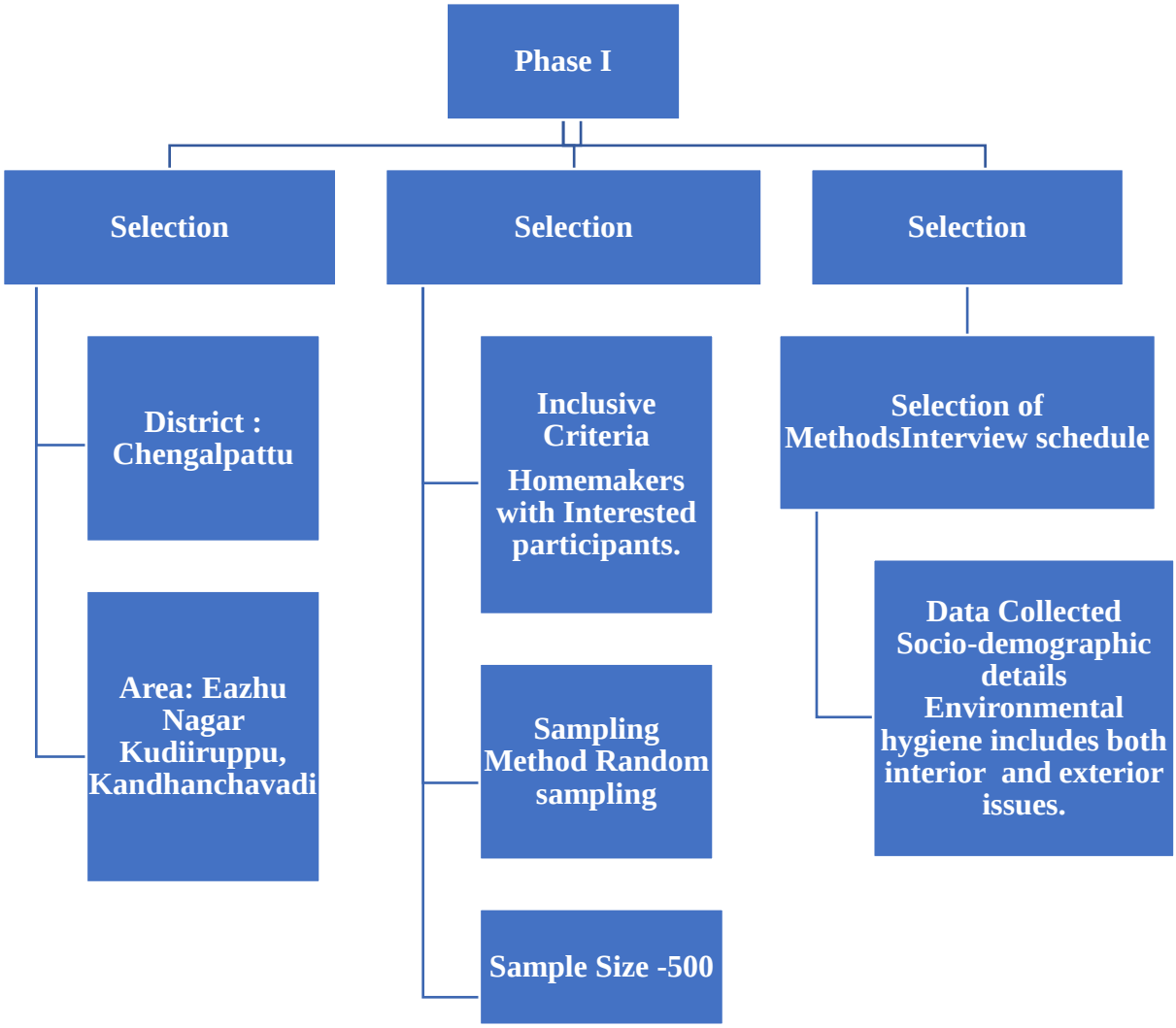
Phase I: Analysis of Environmental Hygiene in the Selected Area.

Phase II: Development the Content for Environmental Hygienic Practices

Phase III: Conduct the Environmental Hygiene Awareness among Selected Urban Slum Households.

Phase IV: Evaluate the Impact of the Implemented Awareness Programme

SCHEMATIC REPRESENTATION OF THE RESEARCH DESIGN



Phase II

Development of Curriculum for Environmental Hygiene Awareness

1. **Identify the Issues:** Conduct a thorough analysis to identify specific environmental hygiene issues in the target community, such as personal hygiene, sanitation practices, water quality, and waste management.
2. **Research and Evidence:** Review existing research and evidence-based practices to inform the development of the curriculum. Consider local data and insights from previous interventions.
3. **Expert Collaboration:** Engage with subject matter experts and stakeholders to validate the curriculum content. Incorporate their expertise in public health, sanitation, and community development.
4. **Course Content Development:** Create a structured curriculum that addresses identified issues comprehensively. Include personal hygiene practices, waste disposal methods, sanitation infrastructure, and health impacts.
5. **Adaptability and Evaluation:** Ensure the curriculum is adaptable to local contexts and community needs. Develop an evaluation plan to assess the effectiveness of the intervention in improving hygiene behaviors and community health outcomes.

Phase III

Conduct the Environmental Hygiene Awareness

Selection of Area

District Chengalpattu Area

Selection of Sample

500 Homemakers (Divided into 5 groups – Each group Consist of 100 women)

Approaches	Methods	Aids
• Direct • Integrated • Holistic • Awareness • Reasoning • Analysis • Commitment	• Guest/Special Lectures, Counseling • Role Play, Workshops, and Games • Group discussions, workshops. • Events include rallies, public meetings, competitions, exhibitions, and film shows. • Participatory action. • Role plays and songs • Campaign-health checkup • Live demonstrations.	Posters, notices, pamphlets, booklets, leaflets, and charts...\ Posters & Booklets

PHASE IV

Socio-demographic profile and existing environmental conditions.

Evaluate the knowledge gained before and after the awareness using YES or No Questions

Evaluate the attitudes developed before and after the awareness - 3 Point Scale

Evaluate environmental hygiene practices before and after awareness using 4 Point Scale

Benefits derived through the practices of an awareness programme for the betterment: overview

IMPLEMENTED:

Interior of the Households:

Exterior of the Households:

Exterior Environment:

- Water Facility
- Road Facility
- Streetlight facility
- Waste Management
- Safety Measures

UNDER PROCESS:

- Cloth bag making
- Free Car Driving
- Creating Self Help Group
- Promoting Job Opportunity

Phase 1:Environmental Hygiene Analysis in the Chosen Area

It was considered important to analyze the prevailing environmental conditions before planning to instil an awareness of environmental hygiene. This survey helps collect comprehensive and diverse socio-demographic data about the conditions people live in, their welfare, demographic characteristics, cultural factors influencing behaviour, and social and economic change. It helps to understand the basic needs and daily challenges faced by each household in the population. (February 22, 2021).

Therefore, a situational analysis survey was conducted systematically to understand the current status of interior and exterior environmental hygiene in the selected urban slum households by adhering to specific steps:

1. selection of area
2. selection of target groups
3. Selection of method
4. Choosing a research tool
5. Conduct the study.
6. Analysis and interpretation of the collected data

1. Selection of Area

Improvement in environmental sanitation is inevitable and an immediate necessity, especially for urban slums. The pressure of a growing number of slums in urban areas due to migration from villages has resulted in environmental degradation. A slum is a highly populated urban slum residential area consisting of densely packed housing units of poor build quality and often associated with poverty. Impoverished people primarily inhabit slums, which often have deteriorated or incomplete infrastructure. Hence, Eazhu Nagar Kudiiruppu,named Kallukuttai, an urban slum in Kandhanchavadi in Chengalpattu District, was the study area.

Out of the seven neighbourhoods in Eazhu Nagar, Thiruvalluvar Nagar was selected for this study due to its consistent vulnerability to natural disasters and the evident neglect of environmental conditions, both within households and in the surrounding areas. Despite being part of Eazhu Nagar, Thiruvalluvar Nagar stands out as an emblem of the challenges faced by communities dealing with environmental adversity. Its selection for study highlights the urgent need for intervention and support in mitigating the impact of natural disasters and

improving the overall environmental quality for the well-being of its residents. Thiruvalluvar Nagar serves as a microcosm, reflecting broader issues of environmental management and community resilience, making it a compelling subject for research and intervention efforts.

In Thiruvalluvar Nagar, there were a total of 1822 households with a population of 6571, of which 1999 were men, 2010 were women, and 2562 were children. In terms of environmental hygiene, a significant amount of trash was dumped along the sides of the road; there was an inadequate water supply and drainage system; and the interior and exterior environments were poorly managed. The observations made by the investigator in her preliminary visit to the area indicated that the sanitary conditions in the selected urban slum were unsatisfactory and needed attention. To improve the prevailing conditions among the selected urban slum women, the investigator approached the panchayat leader to request basic information and initiate an action-oriented programme.

2.Selection of target group:

A sample refers to a smaller, more manageable version of a larger group. It is a subset that reflects the characteristics of a larger population. When population sizes are too large for the test to include all possible members or observations, statistical testing uses samples. A sample should represent the population as a whole and not reflect any bias towards a specific attribute. (Weidinger, L., Uesato, J., Rauh, M., Griffin, C., Huang, P. S., Mellor, J., ... & Gabriel, I. (2022, June). Taxonomy of risks posed by language models. In *Proceedings of the 2022 ACM Conference on Fairness, Accountability, and Transparency* (pp. 214-229). In research terms, a sample is a group of people, objects, or items selected for measurement from a large population. The sample should be a representation of the population to ensure that it can generalize the findings from the research sample to the population as a whole. As a result, the sampling method and gender measures were critical to understanding the importance of sample selection in quality research.

Sampling method:

Sampling is a process of statistical analysis where the researcher takes a predetermined number of observations from a large population. The method of sampling depends on the type of analysis being performed, but it may include purposive sampling. Sampling is a technique of selecting individual members or a subset of the population to make statistical inferences from them and estimate the characteristics of the whole population

Thiruvalluvar Nagar was specifically chosen for the study within Eazhu Nagar due to the pronounced impact experienced by its residents compared to other areas. Situated at a dead-end from the main junction, this neighborhood consistently finds itself at the tail end of receiving essential services and facilities. The residents here often bear the brunt of delays and inadequacies in assistance during times of need, exacerbating their vulnerabilities. Recognizing these challenges, the residents themselves expressed their dire need for necessities to the investigators.

Given the urgency of the situation and the clear necessity for intervention, Thiruvalluvar Nagar was selected purposefully through purposive sampling. This method enabled the researchers to precisely target the area most in need and ensure that the study's efforts would directly address the pressing needs of the community. By focusing on this specific neighborhood, the research aims not only to fulfill their immediate needs but also to pave the way for sustainable interventions that can enhance the well-being and resilience of the residents in the long term.

Out of 1822 households residing inThiruvalluvar Nagar, A total of 20 streets in that area, 10 streets were selected such as - M.G.R.Street, Viyasar Street, Kannagi Street, Cheran Street, Ambedkar Street , Karigalan Street, Mullai Street, Barathiyar Street, Kannadhasan Street, Ganapathi Street

From 10 streets, 50 households from each street, constituting a total of 500 households, were selected through stratified systematic random sampling for this study. Stratified systematic sampling is a sampling technique where the population is divided into distinct subgroups or strata based on certain characteristics that are relevant to the research objectives. Within each stratum, individuals or elements are then selected using a systematic sampling method, where every nth element is chosen from a sorted list of the population (UNESCO, 2023).

This technique combines the advantages of both stratified sampling, which ensures representation from various subgroups of the population, and systematic sampling, which provides a structured approach to selecting samples. By stratifying the population based on key variables, researchers can ensure that each subgroup is adequately represented in the sample, thus improving the precision and accuracy of the results, by following the inclusion and exclusion criteria.

Inclusion Criteria:

- Only Women are Homemakers
- There is Readiness to participate in the intervention

Exclusion Criteria:

- Males and children
- Employed women
- Physically and mentally disabled individuals.

RESULTS AND DISCUSSION

The systematic analysis of the findings of the research carried out on **"Impact of Creating Awareness on Environmental Hygienic Practices among Selected Urban Slum Households "**is presented under the following headings:

A. Socio-demographic profile and existing environmental conditions.
B. Knowledge and attitudes towards environmental hygiene before and after awareness programmes
C. Environmental hygienic practices before and after awareness programmes
D. Effectiveness of awareness programmes on environmental hygiene.

A. Socio-demographic profile and existing environmental conditions.

- ❖ Age, Educational Qualification, and Occupational Status of Selected Households
- ❖ Family Details and Regular Health Checkups

Environmental conditions in the Selected Area :

- ❖ Hygienic Condition of the Interior Households
- ❖ Hygienic Condition of the Exterior Households
- ❖ Hygienic condition of the Exterior Environment
- ❖ Lifestyle Identified in the Selected Households
- ❖ Existing Environmental Hygiene as expressed by the Selected Households
- ❖ Benefits of a Healthy Environment
- ❖ Individuals' Role in Protecting the Environmental Hygiene

A. Socio-demographic profile of the selected households

Social demography deals with questions of population composition and change and how they interact with sociological variables at the individual and contextual levels. Social demography also uses demographic approaches and methods to make sense of social, economic, and political phenomena. The demographic variables that were considered for analysis in this study are as follows: age, type, size of the family, education, occupation, family income, and family monthly health check-up of the respondents.

Under the socio-demographic profile of the selected households, there are two tables, Table 1 shows the age, educational qualification, and occupational status, and Table 2 states the type of family, size of family, number of children, age of children, and regular health checkup for a family of selected households of the respondents.

Table I

Age, Educational Qualification, and Occupational Status of Selected Households

S.No	Category	Classification	Head of Family	%	Home Maker	%
1.	Age (in years)	21-25	4	1	75	15
		26-30	67	13	92	18
		>=31	429	86	333	67
2.	Education	Illiterate	189	38	131	26
		Primary	62	12	72	14
		Secondary	181	36	204	41
		High secondary	23	5	44	9
		Graduate	8	2	8	2
		Postgraduate	31	6	34	7
		Diploma	6	1	7	1
3.	Occupational Status	Agriculture	49	10	20	4
		Daily laborer	344	69	66	13
		Homemaker	0	0	209	42
		Maid /Cook	32	6	160	32
		Self-employed	75	15	45	9

Among the selected households, the majority 86 percent of the family heads and 67 percent of homemakers belonged to the age group greater than 31 years. Educational

backgrounds have had an impact on economic status and on, the lifestyle of an individual. Lifestyle changes have effects on health. The analysis of the academic status of the respondents shows that the majority 38 percent of heads of family were illiterate, whereas 41 percent of homemakers and 36 percent of heads of the family had completed their secondary education. It was clearly stated that eight percent of heads of family and homemakers had completed their graduation, six percent of the heads of family, and seven percent of homemakers were postgraduates.

The occupation of the respondents was also analyzed and presented in the above table. The majority 69 percent of men and only 13 percent of women were working as daily laborers, 42 percent of women were homemakers, and none of the men were homemakers.

Table II

Family Details and Regular Health Checkups of Selected Households

S.No	Classification	Details	Number	%
1	Type of family	Joint family	66	13
		Nuclear family	434	87
2	Size of family	Small (1-4)	381	76
		Medium (4-6)	92	18
		Large (6 & above)	27	5
3	No of Children	0	69	14
		1	111	22
		2	242	48
		3	64	13
		More than 4	14	3
4	Age of children (in years)	<=5	103	21
		6-10	112	22
		11-15	93	19
		16-20	99	20
		>=21	93	19
5	Regular health check-ups for family	Yes	164	33
		No	336	67
6	Monthly Income	Rs. ≤ 5,000	103	21
		Rs. 5,001-10,000	283	57
		Rs. 10,001 – Rs.15,000	56	11
		Rs. 15,001 – Rs. 20,000	27	5
		Rs. > 20,001	31	6

When it comes to the type of family, a nuclear family is a family group consisting of a pair of adults and their children. A joint family was a type of extended family composed of parents, their children, and the children's spouses and offspring in one household. Irrespective, a majority of 87 percent of them belong to the nuclear family. A maximum of 76 percent of respondents were living in a small family (1-4) size 18 percent of respondents were living in a medium family (4-6) and only five percent of respondents belonged to a large family (6 and above).

Environmental Situation in the Selected Area

The environment compasses not only the natural surroundings - the air, the water, the plants and animals used for food - but also shelter, modes of transportation, and all other products of technology, including pollutants and waste materials; all of which interact to affect health. Environmental considerations become increasingly important during these times of changing emphasis in the fields of energy, economics, and technology.

Environmental hygiene can be looked at from two aspects, viz. Hygiene at the household level and Hygiene at the community level.

Environmental sanitation refers to a collection of actions and policies aimed at improving or maintaining the standard of core environmental conditions affecting the well-being of people. These conditions include a clean and safe water supply, clean air, efficient and safe waste disposal procedures, protection of food from chemical and biological contaminants, and suitable housing in safe and clean surroundings.

Table : III Comparison of selected women's knowledge of environmental hygiene

Variable	Impact of awareness programme	Mean	SD	t value	p-value
Knowledge of environmental hygiene	Before	4.57	1.602	27.69	0.000**
	After	10.23	4.422		

** p<0.01 level

Bathing every day is one of the aspects of personal hygiene knowledge that includes washing the hands with soap after going to the toilet, brushing the teeth twice a day, and covering the mouth and nose when sneezing or coughing. The interior hygiene, such as keeping living areas, food preparation areas, bathrooms, and bedrooms clean and

comfortable, as well as efficiently cleaning laundry items, and the exterior environment, such as waste management practices, were analyzed before and after the awareness.

The result showed that there was a significant difference after the training program (27.96) due to the effectiveness of the education program and also the involvement and keenness of the respondents to learn and change their environmental conditions.

2 . **Comparison of selected women's attitudes towards environmental hygiene**

Attitude is a mental position about a fact or state. Attitude is the basis for everything and determines how we react to adversity, grow and learn, overcome challenges, and create bonds with others. The effect of attitude among the respondents before and after the awareness program is presented in Table IV

TABLE IV

COMPARISON OF RESPONDENT'S ATTITUDES OF ENVIRONMENTAL HYGIENE

Variable	Impact of awareness programme	Mean	SD	t value	p-value
Attitudes on environmental hygiene	Before	30.15	3.663	9.303	0.000**
	After	32.85	5.964		

** p<0.01 level

The findings suggest that enhancing hygienic attitudes may play an important role in promoting hygienic behavior among the selected households. A hygienic education program in connection with preventive health examinations might also contribute to activating hygienic-promoting behavior. Hence, in the aspect of attitude towards hygiene, there was a significant difference (9.303) found after the awareness programme.

3. Comparison of Household Practices on Environmental Hygiene

Environmental hygiene includes the use of safe drinking water, personal hygiene, proper refuse, and liquid waste management, provision of food safety, and healthful housing the practice of environmental hygiene before and after the training program is presented in Table V

TABLE V

COMPARISON OF HOUSEHOLD PRACTICES ON ENVIRONMENTAL HYGIENE

Variable	Impact of awareness programme	Mean	SD	t value	p-value
Practices of environmental hygiene	Before	14.26	2.653	20.277	0.000**
	After	23.31	9.976		

** p<0.01 level

In the aspect of practices on health, food, and sanitation before and after the awareness programme, there is a significant difference (20.27) since the respondents realized the importance and role of safeguarding the interior and exterior environment to promote individual, family, community, and overall well-being of the society.

SUMMARY

Socio-demographic Characteristics:

The majority of family heads and homemakers were over 31 years old. 38 percent of family heads were illiterate. Limited attention to specific hygiene elements like hair, teeth, feet, and nails.

Environmental Conditions:

Challenges in solid waste disposal practices, wastewater disposal, and unhealthy living. Interior and exterior environmental hygiene conditions are prevalent.

Evaluation of the awareness programme:

Thirty-one percent of women understood the negative impacts of improper garbage disposal on health and the environment. Burning waste was considered damaging by 97 percent. Water quality impacts health by 98 percent. Concerns about water stagnation, proper storage of drinking water, and open defecation.

Impact of the awareness programme regarding knowledge, attitudes, and practices Significant improvement in knowledge and attitudes towards hygiene.

A significant shift in environmental hygiene behaviour among urban slum women after the awareness. Positive correlation between knowledge and attitude, knowledge and practice, and attitude and practice. Over 55% of respondents embraced and implemented good hygienic practices after the awareness programme.

CONCLUSION

Examining Impact of Creating Awareness on Environmental Hygienic Practices among Selected Urban Slum Households the study focuses on socio-demographic variables such as age, family structure, occupation, education, and economic standing. It draws attention to issues with wastewater management, solid waste disposal, and personal hygiene that lead to unhygienic living circumstances. According to women's perspectives, sustaining hygiene requires awareness and support, as well as a clean atmosphere. The awareness programme comprehensively influenced environmental hygiene behavior by considerably enhancing knowledge, attitudes, and practices. The research emphasizes how well the awareness strategy worked to encourage sanitary practices among urban slum households and women.

REFERENCE

- Ahmad, M., Jiang, P., Majeed, A., Umar, M., Khan, Z., & Muhammad, S. (2020). The dynamic impact of natural resources, technological innovations and economic growth on ecological footprint: an advanced panel data estimation. *Resources Policy*, *69*, 101817.
- Canton, H. (2021). United Nations Human Settlements Programme—UN-Habitat. In *The Europa Directory of International Organizations 2021* (pp. 234-240). Routledge.
- David Raja Selvam, J.Dinaharan, I., Rai, R. S., & Mashinini, P. M. (2019). Role of zirconium diboride particles on microstructure and wear behaviour of AA7075 in situ aluminium matrix composites at elevated temperature. *Tribology-Materials, Surfaces & Interfaces*, *13*(4), 230-238.
- Fisher, K. A., Bloomstone, S. J., Walder, J., Crawford, S., Fouayzi, H., & Mazor, K. M. (2020). Attitudes toward a potential SARS-CoV-2 vaccine: a survey of US adults. *Annals of internal medicine*, *173*(12), 964-973.
- Grasselli, G., Scaravilli, V., Mangioni, D., Scudeller, L., Alagna, L., Bartoletti, M., ... & Bandera, A. (2021). Hospital-acquired infections in critically ill patients with COVID-19. *Chest*, *160*(2), 454-465.
- Holtorf, C., & Rydén, H. (2023). *Progress Report: UNESCO Chair on Heritage Futures: Period: 09/2022–08/2023*. Linnéuniversitetet.

- Mehra, M. R., Desai, S. S., Kuy, S., Henry, T. D., & Patel, A. N. (2020). Cardiovascular disease, drug therapy, and mortality in Covid-19. *New England Journal of Medicine*, *382*(25), e102.
- Weidinger, L., Uesato, J., Rauh, M., Griffin, C., Huang, P. S., Mellor, J., ... & Gabriel, I. (2022, June). Taxonomy of risks posed by language models. In *Proceedings of the 2022 ACM Conference on Fairness, Accountability, and Transparency* (pp. 214-229).
- World Health Organization, & United Nations Children's Fund. (2020). *Levels and trends in child malnutrition: key findings of the 2020 edition. UNICEF/WHO/World Bank Group joint child malnutrition estimates*. World Health Organization.